REMARKS

Claims 1-11 are pending in the application. Claims 1-11 stand rejected. Claims 1-3, and 9 have been amended in order to more particularly point out, and distinctly claim the subject matter to which the applicant regards as his invention. Claim 4 has been canceled. The applicant respectfully submits that no new matter has been added. It is believed that this Amendment is fully responsive to the Office Action dated **November 21, 2006**.

Objection to the Abstract

The abstract of the disclosure has been objected to because the Abstract is in single sentence form. Taking the Examiner's comments into consideration a substitute abstract is herein supplied. Therefore, withdrawal of the objection to the abstract is respectfully requested.

Claim Rejections under 35 USC §102

Claims 1 and 2 stand rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al. (JP 2001-159107).

The present invention is a vehicle impact attenuator that can be installed in the vicinity of a road in order to immediately stop a colliding vehicle and reduce the impact to the vehicle. There are a total of five (5) embodiments for the present invention. The first embodiment is

illustrated in Fig. 1, in which the vehicle impact attenuator (100) includes a shock absorber (10) that deforms upon a collision by a vehicle, a support (20) for the shock absorber (10), and a holding portion (30) that is fixed on an installation surface E and holds the support (20) in a vertical position on the installation surface E. The holding portion (30) is made of a release portion having a breaking strength that allows the release portion to fracture upon application of a load equal to or exceeding a set value, thereby releasing the support (20). Further, the support 20 can deform upon application of a load less than a set value.

Further the holding portion (30) of the present invention has a connecting portion (31) fixed on a lower part of the support (20) so as to hold the support (20) in a vertical position, and anchor bolts (33) implanted in the installation surface E through engaging holes 32 provided in the connecting portion (31). The anchor bolts (33) (release portion) can fracture upon application of a load equal to or exceeding a set value to thereby release the support (20).

Yamazaki et al. (JP 2001-159107) describes a collision buffering body (8) having two shock-absorbing members (6) affixed to supporting body (3).

Concerning Yamazaki et al. (JP2001-159107), the examiner insists that "The support capable of being plastically deformable by a load lower than the set value." on page 2 1.2 from the bottom line in the Detailed Action. However, Yamazaki et al. does not disclose the feature of claim 1, i.e., "the support being a pipe-like member which has an outer **diameter of 114.3 to 318.5 mm** and **a**

wall thickness of 1.6 to 20 mm, the plastic deformation occurs as a flattening of the pipe-like member, and the **yield point load that causes the flattening as the plastic deformation of the support being not less than 25 kN and not more than 800 kN**". Actually, the support might be plastically deformed in Yamazaki et al. However, if the support deforms or broken when a vehicle collides with the collision buffering body disclosed in Yamazaki et al., it cannot work as a collision buffering body. The feature of the collision buffering body disclosed in Yamazaki et al. is described in the paragraph [0007]. Paragraph [007] describes "Namely, concerning the 1st collision buffer for cars of this invention, the absorber base material (3), with which the impact absorber (6) was attached, is fixed to the ground so that immobilization may be canceled by the load according to the collision of the car. If a collision of a car happens, in the early stage in which the energy absorption operation by the impact absorber is weak, the impact is effectively absorbed by making the impact absorber fully transformed **with the rigidity of the absorber base material** which is fixed to the ground. And, **after discharge of the above-mentioned immobilization, the absorber base material slides with the car.** Thereby, while preventing destruction of a car, an impact is effectively eased by the impact absorber whose deformation is restored on some level after the discharge of the above-mentioned immobilization. ..." (numbers in parentheses are added by us for easy understanding). From the above description in Figs. 1 and 2 which disclose a caster (or axle-pin rake) (5), it is obvious that the invention of the Yamazaki et al. does not work if the **pipe (2)** of **the**

absorber base material (3) plastically deforms, because in that case it cannot maintain the condition of "the impact is effectively absorbed by making the impact absorber fully transformed **with the rigidity of the absorber base material which is fixed to the ground".** Plastic deformation means loss of the rigidity of the absorber base material. Therefore, the collision buffering body of the Yamazaki et al. must be made so as to maintain the rigidity of the **pipe** (2) of **the absorber base material** (3) without plastic deformation at least during the **absorber base material** (3) is fixed to the ground.

On the contrary, concerning the invention of claim of this application, "the support or the holding portion having a release portion that fractures upon application of a load equal to or exceeding a set value, to thereby release the support from being held in a vertical position in the installation area, the support being plastically deformable by a load lower than the set value, the support being a pipe-like member, the plastic deformation (i.e., flattening of the pipe-like member) before the release portion of the support or the holding fractures. This feature is not disclosed in Yamazaki et al. And this feature is not suggested or taught in Yamazaki et al.

Claim 1 has been amended adding "the support being a pipe-like member which has an outer diameter of 114.3 to 318.5 mm and a wall thickness of 1.6 to 20 mm" so as to eliminate the second embodiment shown in Figs. 3 and 4. In the second embodiment, the plastic deformation does not occur as a flattening of the pipe-like member. Further, claim 1 has been amended to add

"the yield point load that causes the flattening as the plastic deformation of the support being not less than 25 kN and not more than 800 kN". The prior art of record does not disclose the foregoing features.

Therefore, withdrawal of the rejection of claims 1 and 2 under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al. (JP 2001-159107) is respectfully requested.

Claim 1 stands rejected under 35 U.S.C. 102(b) as being anticipated by Medley, Jr. (U.S. 3,838,661).

Medley, Jr. (U.S. 3,838,661) describes a collapsible post (10) having a base unit (12) and a separable spring-containing post unit (14) connected to one another by an elongated extensible connecting member (16), such as a flexible cable. The base unit (12) includes a base body (18) made of a synthetic plastic. An elongated tubular upright member (48), also preferably of synthetic plastic material surrounds a tubular filler core (46) of synthetic plastic material. The lower end of the upright tubular member (48) has a lower recess or socket (60) which is configured to fit over a projection (20) in the base (12) in mating engagement therewith so as to hold the collapsible post (10) in a vertical position.

However, Medley, Jr. (U.S. 3,838,661) fails to disclose, suggest nor teach the features of claim 1 previously discussed. Furthermore, Medley, Jr. **does not disclose any mechanical value**

concerning destruction or deformation such as a load value. Hence, it is obvious that the prior art of record does not disclose another feature of the claim 1, i.e., "the support being a pipe-like member which has an outer diameter of 114.3 to 318.5 mm and a wall thickness of 1.6 to 20 mm" and "the yield point load that causes the flattening as the plastic deformation of the support being not less than 25 kN and not more than 800 kN".

Therefore, withdrawal of the rejection of claim 1 under 35 U.S.C. 102(b) as being anticipated by Medley, Jr. (U.S. 3,838,661) is respectfully requested.

Claims 1 and 7 stand rejected under 35 U.S.C. 102(b) as being anticipated by Leach et al. (U.S. 3,717,326).

Leach et al. (U.S. 3,717,326) describes an energy absorbing highway barrier having a post (14) pivotally anchored by mechanism (16) and post (17) restricted from pivoting by mechanism (18). As shown in Figure 2, a bolt (60) is fastened through pivotal connector (68) to a ground anchor (58). A vehicle striking the barrier at any point will urge tipping and displacement of posts (14) and (17) and stretching cable (20).

However, Leach et al. (U.S. 3,717,326) fails to disclose the features of claim 1 previously discussed. Furthermore, Leach et al. **does not disclose any mechanical value concerning destruction or deformation such as a load value.** Hence, the prior art of record

does not disclose another feature of the claim 1, i.e., "the support being a pipe-like member which has an outer diameter of 114.3 to 318.5 mm and a wall thickness of 1.6 to 20 mm" and "the yield point load that causes the flattening as the plastic deformation of the support being not less than 25 kN and not more than 800 kN".

Therefore, withdrawal of the rejection of claims 1 and 7 under 35 U.S.C. 102(b) as being anticipated by Leach et al. (U.S. 3,717,326) is respectfully requested.

Claims 1, 2, 4 and 11/2 stand rejected under 35 U.S.C. 102(b) as being anticipated by Hirotaka (JP 10-176314).

Hirotaka (JP 10-176314) fails to describe the features of claim 1 previously discussed. Furthermore, Hirotaka **does not disclose any mechanical value concerning destruction or deformation such as a load value.** Hence, the prior art of record does not disclose another feature of the claim 1, i.e., "the support being a pipe-like member which has an outer diameter of 114.3 to 318.5 mm and a wall thickness of 1.6 to 20 mm" and "the yield point load that causes the flattening as the plastic deformation of the support being not less than 25 kN and not more than 800 kN".

Therefore, withdrawal of the rejection of claims 1, 2, 4 and 11/2 under 35 U.S.C. 102(b) as being anticipated by Hirotaka (JP 10-176314) is respectfully requested.

Claim Rejections under 35 USC §103

Claims 1 and 3 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Maestri (U.S. 4,183,505) in view of Kuykendall et al. (U.S. 4,432,172).

Maestri (U.S. 4,183,505) describes a guard barrier system having cylindrical, solid, resilient bumper elements (10) mounted on posts (12). The posts (12), which are suitably steel, are fixed to the ground (13).

Maestri (U.S. 4,183,505) fails to describe the feature of the invention of claim 1, i.e., "the support being a pipe-like member which has an outer diameter of 114.3 to 318.5 mm and a wall thickness of 1.6 to 20 mm" and "the support being a pipe-like member, the plastic deformation occurs as a flattening of the pipe-like member, and the yield point load that causes the flattening as the plastic deformation of the support not being less than 25 kN and not more than 800 kN".

Therefore, withdrawal of the rejection of claims 1 and 3 under 35 U.S.C. 103(a) as being unpatentable over Maestri (U.S. 4,183,505) in view of Kuykendall et al. (U.S. 4,432,172) is respectfully requested.

Claims 1, 3 and 4 stand rejected under 35 U.S.C. 103(a) as being unpatentable over

Svensson (U.S. 4,196,550) in view of Maestri (U.S. 4,183,505).

Svensson (U.S. 4,196,550) describes a post that consists of a tube (2) having circumferentially spaced slits (1) which extend at intervals longitudinally of the tube. To stabilize the portions of material (3) between the slits and to prevent outward buckling, the tube is provided with an external shell (4) of slightly elastic material, e.g. plastic material, which adheres to the tube (2).

Again, Svensson (U.S. 4,196,550) fails to describe the feature of the invention of claim 1, i.e., "the support being a pipe-like member which has an outer diameter of 114.3 to 318.5 mm and a wall thickness of 1.6 to 20 mm" and "the plastic deformation occurs as a flattening of the pipe-like member, and the yield point load that causes the flattening as the plastic deformation of the support being not less than 25 kN and not more than 800 kN".

Therefore, withdrawal of the rejection of claims 1, 3 and 4 under 35 U.S.C. 103(a) as being unpatentable over Svensson (U.S. 4,196,550) in view of Maestri (U.S. 4,183,505) is respectfully requested.

Claims 5, and 8/5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Medley, Jr. (U.S. 3,838,661) in view of Andonian (U.S. 5,207,175).

Andonian (U.S. 5,207,175) describes a marker post.

Claims 5 and 8 are allowable by virtue of there dependence from allowable independent claim 1. Therefore, withdrawal of the rejection of claims 5, and 8/5 under 35 U.S.C. 103(a) as being unpatentable over Medley, Jr. (U.S. 3,838,661) in view of Andonian (U.S. 5,207,175) is respectfully requested.

Claims 3, 4, 8/3 and 8/4 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hirotaka (JP 10-176314) in view of Svensson (4,196,550).

Claims 3, 4 and 8 are allowable by virtue of there dependence from allowable independent claim 1. Therefore, withdrawal of the rejection of claims 3, 4, 8/3 and 8/4 under 35 U.S.C. 103(a) as being unpatentable over Hirotaka (JP 10-176314) in view of Svensson (4,196,550) is respectfully requested.

Claims 9/2, 9/4, 10/2, 10/4, 11/2 and 11/4 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hirotaka (JP 10-176314) in view of Kuykendall et al. (U.S. 4,432,172).

Claims 2, 4, 9, 10 and 11are allowable by virtue of there dependence from allowable independent claim 1. Therefore, withdrawal of the rejection of claims 9/2, 9/4, 10/2, 10/4, 11/2 and 11/4 under 35 U.S.C. 103(a) as being unpatentable over Hirotaka (JP 10-176314) in view of

Kuykendall et al. (U.S. 4,432,172) is respectfully requested.

Claims 9/5, 10/9/5 and 11/5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Medley, Jr. '661 in view of Andonian '175, as applied to claim 5 above, and further in view of Kuykendall et al. '172.

Claims 5, 9, 10 and 11are allowable by virtue of there dependence from allowable independent claim 1. Therefore, withdrawal of the rejection of claims 9/5, 10/9/5 and 11/5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Medley, Jr. in view of Andonian , and further in view of Kuykendall et al. is respectfully requested.

Conclusion

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the applicants respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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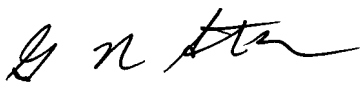

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